

- (3) Land adjacent to a protected natural resource. Any land area within 100 feet, measured horizontally, of the normal high water line of a great pond, river, stream or brook or the upland edge of a coastal wetland or freshwater wetland.
- (4) Riprap. Heavy, irregular-shaped rocks that are fit into place, usually without mortar, on a slope.
- (5) Structure. Anything built for the support, shelter or enclosure of persons, animals, goods or property of any kind, together with anything constructed or erected with a fixed location on or in the ground. Examples of structures include buildings, utility lines and roads.
- (6) Utility lines, pipes and cables. Wires and pipes providing utility services. The term includes telephone and electric wires, gas, oil, water and sewer pipelines, and their support structures, whether public or private.
- (7) Non-native wetland plants. Wetland grasses, forbs, shrubs, or trees not native to the State of Maine, for example, common reed (*Phragmites communis*) and purple loosestrife (*Lythrum salicaria*).

10. Stream crossings (bridges, culverts and fords)

A. Applicability

- (1) This section applies to the construction of a bridge span or culvert crossing of a river, stream or brook, and associated accessway construction within 25 feet of the river, stream or brook crossing excluding the following:
 - (a) Crossings of outstanding river segments identified in 38 M.R.S.A. Section 480-P;
 - (b) Crossings of any river as defined by 38 M.R.S.A. Section 436-A(11), the Mandatory Shoreland Zoning Act (information is available at the Town Office); or
 - (c) Crossings of any portion of a river, stream or brook that experiences tidal action; ~~or,~~
 - ~~(d) Crossings that are part of a larger project, excepting recreation trails, involving multiple crossings of a natural resource or more than one natural resource. Projects consisting of multiple natural resource crossings must obtain an individual permit under the Natural Resources Protection Act.~~
- (2) This section also applies to the establishment of a permanent stream ford for purposes of timber harvesting, livestock, agriculture and construction and maintenance of a utility line.
- ~~(3) This section applies to crossings associated with recreation trails that are: less than 12 feet wide; utilize a span or bridge, without abutments; and not maintained for highway vehicles. Multiple recreation trail crossings constructed in this manner may be submitted on one PBR notification form as long as the activities are located within one town.~~
- (34) A stream crossing constructed between July 15 and October 1 that is associated with forest management activities is exempt from the 14 day waiting period required in Section 1(C)(1).

- (45) A stream crossing constructed between July 15 and October 1 that is performed or supervised by individuals currently certified in erosion control practices by the DEP is exempt from the 14 day waiting period required in Section 1(C)(1).
- (5) Multiple stream crossings may be submitted on one PBR notification form as long as all of the crossing activities are located within one town.
- (6) This section does not apply to an activity that is not or will not be in compliance with the terms and conditions of permits issued under the Site Location of Development Law, 38 M.R.S.A. Sections 481 to 490, the Storm Water Management Law, 38 M.R.S.A. Section 420-D, or the Natural Resources Protection Act, 38 M.R.S.A. Sections 480-A to 480-Z.
- (7) This section does not apply to an activity that will not conform to the local shoreland zoning ordinance.

NOTE:

- (1) Contact the local Code Enforcement Officer for information on local shoreland zoning requirements.
- (2) Maintenance and repair of a public or private crossing of a river, stream or brook is exempt from the NRPA provided that:
- (a) Erosion control measures are taken to prevent sedimentation of the water;
 - (b) The crossing does not block fish passage in the water course; and
 - (c) Any replaced culvert is not more than 25% longer than the culvert being replaced and is not longer than 75 feet.
- (3) A permit may be required from the US Army Corps of Engineers for the following types of projects:
- (a) Any activity involving impacts (direct and secondary) to freshwater wetlands; or
 - (b) An activity within a river, stream or brook between October 2 and July 14.

A copy of the PBR notification form should be submitted to the Corps of Engineers for these activities (US Army Corps of Engineers, RR 2 Box 1855, Manchester, ME 04351).

B. Submissions

- (1) For any ~~work crossing~~ involving trenching or disturbance of substrate in a river, stream or brook that occurs between October 2 and July 14, ~~notice of approval for the proposed work from the Department of Inland Fisheries and Wildlife, the Atlantic Salmon Authority and the Department of Marine Resources must be submitted to the DEP with the notification form. the~~ proposed dates for construction of the crossing must be clearly identified on the notification form under "Description of Project".

- (2) Photographs showing the completed project and the affected area must be submitted within 20 days of the activity's completion. The photographs must be sent with a copy of the notification form or labelled with the applicant's name and the town in which the activity took place.

C. Standards

- (1) The following measures must be taken to prevent erosion of soil or fill material from disturbed areas into the resource:
 - (a) Staked hay bales or silt fence must be properly installed between the area of soil disturbance and the resource before the activity begins;
 - (b) Hay bales or silt fence barriers must be maintained until the disturbed area is permanently stabilized;
 - (c) Within 7 calendar days following the completion of any soil disturbance, and prior to any storm event, mulch must be spread on any exposed soils;
 - (d) All disturbed soils must be permanently stabilized; and
 - (e) Within 30 days of final stabilization of the site, any silt fence must be removed.

NOTE: For guidance on erosion and sedimentation controls, consult the Maine Erosion and Sediment Control Handbook for Construction: Best Management Practices, dated March 1991. This handbook and other references on silt fence or hay bale installation and site stabilization are available from the DEP.

- (2) If a perennial watercourse to be crossed is used for navigation, the crossing must consist of a bridge span or pipe arch with at least 4 feet of clearance during normal high water for boat traffic.
- (3) If the stream to be crossed is a perennial watercourse and has a slope of more than 2%, a bridge or a pipe arch must be used to maintain the natural streambed.
- (4) Fill sideslopes in a stream or floodplain wetland must be maintained at a slope no shallower than 3 horizontal to 1 vertical and no steeper than 1.5 horizontal to 1 vertical. Fill sideslopes must be stabilized at the completion of the activity.

NOTE: Uncompacted soils or sandy soils that are saturated at the toe of a slope will be unstable at a 1.5 to 1 slope.

- (5) A bridge or culvert must provide an opening with a cross-sectional area at least equal to 3 times the cross-sectional area of the stream channel or sufficient in size to accommodate 25-year frequency water flows.

NOTE: Stream crossings allowable under this section but located in flood hazard areas (i.e. A zones) as identified on a community's Flood Insurance Rate Maps (FIRM) or Flood Hazard Boundary Maps (FHBM) must be designed and constructed under the stricter standards

contained in that community's National Flood Insurance Program (NFIP). For example, a crossing may be required to pass a 100-year flood event.

- (6) Road surfaces must be constructed in a manner to prevent erosion of material into the river, stream or brook.
- (7) Surface water on or adjacent to crossing approaches must be diverted through vegetative filter areas at least 25 feet long to avoid sedimentation of the watercourse. Roadside ditches may not extend to the resource being crossed.

NOTE: Surface water on or adjacent to crossing approaches should be diverted through vegetative filter areas to avoid sedimentation of the watercourse. Because roadside ditches may not extend to the resource being crossed, filter areas should be established in accordance with the following tables:

Average slope of land between exposed mineral soil and normal high water mark (percent)	Width of strip between ditch terminus and normal high water mark (feet along surface of the ground)
0	25
10	45
20	65
30	85
40	105
50	125
60	145
70	165

- (8) A stream ford must be lined with crushed stone, blasted ledge, washed stone, gabion blankets or geotextile material for erosion control when the natural stream bed does not consist of ledge or rock.
- (9) A stream ford must allow for fish passage at all times of the year and may not impound water. The fords must also allow for maintenance of normal stream flows.
- (10) Culvert crossings must:
 - (a) Be limited to 75 feet in length. This limit may not be exceeded within a half-mile length of the stream or within the length of stream controlled by the applicant, if less;
 - (b) Follow the alignment and grade of the existing stream channel where possible. On perennial streams the culvert's gradient may not exceed 1%;
 - (c) At the outfall, have the bottom of the culvert installed at or below stream bed elevation, except for additional culverts at the same crossing;
 - (d) Where 2 or more culverts are installed, be offset in order to concentrate low flows into the culvert within the natural channel;

- (e) Be seated on firm ground, or on geotextiles, logs or other materials used to stabilize the ground;
 - (f) Be covered by soil to a minimum depth of 1 foot or according to the culvert manufacturer's specifications, whichever is greater;
 - (g) Have the soil compacted at least halfway up the side of the culvert; and
 - (h) Have the inlet and outlet ends stabilized by riprap or other means to avoid erosion of material around the culvert.
- (11) Wheeled or tracked equipment may not operate in the water. Equipment operating on the shore may, where necessary, reach into the water with a bucket or similar extension. Equipment may cross streams on rock, gravel or ledge bottom.
- (12) Work below the normal high water line must be done during periods of low water level or flow.
- (13) ~~If the activity occurs~~crossing involves trenching or disturbance of substrate in a coastal wetland, great pond, river, stream or brook between October 2 and July 14, the activity must occur during the time period approved by the DEP.~~Department of Inland Fisheries and Wildlife, the Atlantic Salmon Authority and the Department of Marine Resources. The approved time period may be the time period proposed by the applicant or an alternative time period approved by the DEP. The applicant will be notified by the DEP within 14 days if an alternative time period, other than the one proposed by the applicant, is required for constructing the crossing.~~
- (14) If work is performed in a river, stream or brook that is less than three feet deep at the time of the activity and at the location of the activity, the applicant must provide for temporary diversion of flow to the opposite side of the channel while work is in progress.
- (a) Diversion may be accomplished by placing sandbags, timbers, sheet steel, concrete blocks, 6+ mil polyethylene or geotextiles from the bank to midstream on the upstream side of the activity. No more than two-thirds (2/3) or 25 feet of stream width, whichever is less, may be diverted at one time.
 - (b) Any material used to divert water flow must be completely removed upon completion of the activity, and the stream substrate must be restored to its original condition.
 - (c) A pump may be operated, where necessary, for a temporary diversion. The pump outlet must be located and operated such that erosion or the discharge of sediment to the water is prevented.
- (15) All wheeled or tracked equipment that must travel or work in a vegetated wetland area must travel and work on mats or platforms in order to protect wetland vegetation.
- (16) All excavated material must be stockpiled either outside the wetland or on mats or platforms. Hay bales or silt fence must be used, where necessary, to prevent sedimentation.
- (17) The use of untreated lumber is preferred. Lumber pressure treated with chromated copper arsenate (CCA) may be used, provided it is cured on dry land in a way that exposes all

surfaces to the air for a period of at least 21 days prior to construction. Wood treated with creosote or pentachlorophenol may not be used where it will contact water.

D. Definitions. The following terms, as used in this chapter, have the following meanings, unless the context indicates otherwise:

- (1) Cross-sectional area. The cross-sectional area of a stream channel is determined by multiplying the stream channel width by the average stream channel depth. The stream channel width is the straight line distance from the normal high water line on one side of the channel to the normal high water line on the opposite side of the channel. The average stream channel depth is the average of the vertical distances from a straight line between the normal high water marks of the stream channel to the bottom of the channel.
- (2) Crossing. Any activity extending from one side to the opposite side of a protected natural resource, or to an island or upland within a protected natural resource whether under, through or over that resource. Such activities include, but are not limited to roads, fords, bridges, culverts, utility lines, water lines, sewer lines and cables, as well as maintenance work on these crossings.
- (3) Fill. a. (verb) To put into or upon, supply to, or allow to enter a water body or wetland any earth, rock, gravel, sand, silt, clay, peat, or debris; b. (noun) Material, other than structures, placed in or adjacent to a water body or wetland.
- (4) Ford. A permanent crossing of a stream utilizing an area of existing, non-erodible substrate of the stream, such as ledge or cobble, or by placing non-erodible material such as stone or geotextile on the stream bottom.
- (5) Perennial watercourse. A river, stream or brook depicted as a solid line on the most recent edition of a United States Geological Survey 7.5 minute series topographic map, or if not available, a 15 minute series topographic map.
- (6) Riprap. Heavy, irregular-shaped rocks that are fit into place on a slope, without the use of mortar.
- (7) Used for navigation. Those rivers, streams or brooks used by motorized watercraft.